



July 7, 2005

TO: David L. Edwards/Gary J. McKee  
NW Region, MS NB82-117

FROM: *T.M. Allen*  
T. M. Allen/D.A. Williams  
E&EP Geotechnical Division, 47365

SUBJECT: SR-202, OL-3498  
SR 520 to Sahalee Way NE  
Addendum 3 to Final Geotechnical Report



## Introduction

The recommendations in this memorandum are intended to supplement our Final Geotechnical Report dated November 8, 2004 and Addendum 1 dated December 15, 2004. Addendum 2 provided foundation recommendations for Wall 23 and 24. As requested, we are supplying additional geotechnical recommendations for new Wall 22, and loading analysis of luminaire, signal foundations and utility pole sleeves adjacent to welded wire MSE Walls 13, 14 and 19.

Previously, we prepared geotechnical recommendations for Wall 22. The location and dimensions for Wall 22 have changed since our last report. This wall is required to provide increased capacity of Pond 1 and to support a 3H:1V slope. The wall location in the proposed Pond 1A is shown in Figure A-10.

We were also asked to supply design information, including either earth pressures or additional lateral bearing pressures, due to pole foundations located directly behind welded wire walls 13, 14 and 19.

The analyses, conclusions, and recommendations presented in this report are based on the project description and site conditions that existed at the time of the field exploration. We assumed the exploratory borings represent the subsurface conditions throughout the wall alignments. If different subsurface conditions are encountered or appear to be present, we should be contacted so that we can reevaluate our recommendations and assist you.

## Field Exploration

No additional investigation was performed for the preparation of this addendum. We used the existing test hole in the vicinity of the proposed Wall 22 site, H-30-02, for our design. We revised Figure A-10 to show the location of Wall 22 relative to H-30-02. For the utility pole foundations in the vicinity of Station 236+27 (Wall 19), we used test hole B-1-92 for our

design. The remainder of the utility poles, luminaires, and signal foundations will be in the backfill and reinforcement zone of the MSE walls.

The utility pole, luminaire, and signal pole sites are shown in the revised Figures A-12, A-14, and A-25 provided in this addendum.

### **Site Soil Conditions**

At the Wall 22 site, there are three major soil units. The three units are as follows:

- Fill – Loose to medium dense, sand and gravel with silt. The thickness of this unit varies between 1 ft and 6 ft.
- Loose, sandy silt. The thickness of this unit varies up to 7 ft.
- Medium Dense to very dense, silty sand to silty gravel.

In the vicinity of Station 236+27 at the proposed utility pole site at the face of Wall 19, there are four units in the following layers:

- Fill – Loose to medium dense, sand and gravel with silt. The thickness of this unit varies between 1 ft and 2 ft.
- Soft to medium, stiff elastic silt to medium stiff, lean clay with sand, (Lacustrine and/or slack water deposits). The thickness of this unit varies up to 18 ft.
- Medium dense to dense, well-graded to poorly graded gravel. The thickness of this unit varies up to 28 ft.
- Very dense, silty sand and poorly-graded to well-graded sand and gravel.

### **Surface Water and Groundwater**

In the vicinity of Wall 22, the water levels have been monitored in test hole H-30-02. Ground water varies between elevations 101 ft and 102.6 ft, which is near the expected bottom of the pond elevation 102 ft. The lowest level was observed during the late summer to early fall months (August to November). Water levels for the utility pole in the vicinity of Wall 19 are summarized on Table 11 in Appendix E of the final Geotechnical Report. The water levels are also listed on the test hole logs.

Ground water is not expected for the luminaires, signal poles, and 4 of 8 utility pole locations founded in the MSE wall backfill. Wet foundation conditions for the utility pole sleeve locations should be expected between SR 202 Stations 194+50 to 200+40 and in front of Wall 19.

### **Geotechnical Recommendations**

**Wall 22 – Stations 180+73 (177 ft Lt.) to 181+15 (93 ft Lt.)**

Wall 22 will be in a cut section to allow the expansion of Pond 1A and to support an access road. The wall will be located along the south and west sides of the proposed Pond 1A, and the wall will support a 3H:1V slope below SR 202 and 188<sup>th</sup> Ave NE. A new retaining wall is required to provide increased capacity of the proposed pond. Another option in lieu of a wall would be to steepen the slope. It is our understanding that this option is not feasible due to the City of Redmond requirements.

Pond 1A will have a design pool elevation of 108, and a 100-year water level elevation of 113 ft. The wall will be approximately 129 ft long with a maximum exposed height of 6 ft. The wall will be located underwater for most of its design life.

Largely because the wall will be submerged continuously, we recommend a Standard Plan reinforced concrete wall be constructed at this location. We recommend the wall be embedded a minimum of 3 ft below the finished grade in front of the wall to provide an adequate factor of safety for overall stability. At the request of the project office, we also considered a three block high Ultra Block Wall or an Ecology Block System. However, this wall type does not provide an adequate factor of safety for overall stability, and therefore is not recommended.

#### **Signal Foundation – Stations 188+30 (40 ft Lt.)**

We analyzed a special design signal standard that is located approximately 7.5 ft behind the face of Wall 13. For our analysis, we used a foundation depth of 18 ft, a shaft diameter of 3 ft, and allowable moment of 83,963 ft-lbs at the top of the foundation. We calculated an allowable lateral soil bearing pressure of 374 psf acting on the upper 2/3 of the shaft and 795 psf on the lower 1/3 of the shaft. Since the foundation will be in the reinforcement zone, we were asked to provide the added lateral stresses at the wall face due to the pole foundation. We estimate that the additional stress at the wall face will be 118 psf as shown in Figure F-30. This stress will act on the bottom 7.3 ft of the wall between Stations 188+25 to 88+35.

#### **Luminaires – Stations 192+69 (38 ft Rt.) to 200+49 (40 ft Rt.)**

There are five luminaire locations shown on Figures A-12 and A-14. Since the luminaires are located approximately 8 ft behind the face of Wall 14, the increased lateral bearing pressure on the wall due to the pole foundation is negligible. For our analysis, we assumed a standard foundation shown in Standard Plan J-1b, with a depth of 4.5 ft or 5.5 ft, a shaft diameter of 3 ft, and allowable lateral soil bearing pressure of 2,500 psf.

#### **Utility Pole Sleeves**

We analyzed special designed utility pole sleeves behind or at the face of the proposed welded wire MSE retaining walls, Walls 13 and 19. The sleeve consists of a 30-inch diameter, 10-ft long plain steel culvert pipe with a wall thickness of 0.064 inches thick. We analyzed two pole load cases for 60 ft long poles, Class H2 (2° wire angle) and Class I (straight wire angle). Class H2 has an allowable moment of 206,007 lb-ft, and Class I has an allowable moment of 144,461 lb-ft, both at the ground line. Seven sleeves are located

approximately 7.5 ft behind the face of Wall 13. We analyzed the sleeves behind Wall 13 as a pole foundation. The results are summarized in Table 1 and Figure F-31.

Two utility pole sleeves are proposed at Station 236+27 (46 ft Rt.) along the wall line of Wall 19. As proposed, these sleeves are spaced 8 ft center-to-center of poles in a recessed section of Wall 19 between approximate Stations 236+21 and 236+33. It is our understanding the poles will be placed in front of the wall. Wall 19 will be recessed in the area of the poles. Further, Puget Sound Energy will be responsible for the design of the utility pole system at this location. In Figure F-32, we have provided typical earth pressure diagrams for the case of the sleeve located behind the wall face (Case 1) and for the case of the sleeve located directly in front of the wall face. These diagrams can be used to evaluate the required length of the sleeves.

Table 1: Summary of Utility Pole Sleeve information

Utility Pole Location Station (Offset)	Wall No.	Distance from Wall Face	Pole Length/ Class	Added Lateral Stress ( $\sigma_{\text{pole}}$ )
188+25 (48 ft Lt.)	13	7.5 ft	60/H-2	$\sigma_{\text{pole}} = 663 \text{ psf}$
190+55 (48 ft Lt.)	13	7.5 ft	60/I	$\sigma_{\text{pole}} = 465 \text{ psf}$
192+51 (46 ft Lt.)	13	7.5 ft	60/I	$\sigma_{\text{pole}} = 465 \text{ psf}$
194+47 (46 ft Lt.)	13	7.5 ft	60/I	$\sigma_{\text{pole}} = 465 \text{ psf}$
196+43 (46 ft Lt.)	13	7.5 ft	60/I	$\sigma_{\text{pole}} = 465 \text{ psf}$
198+39 (46 ft Lt.)	13	7.5 ft	60/I	$\sigma_{\text{pole}} = 465 \text{ psf}$
200+35 (47.6 ft Lt.)	13	7.3 ft	60/H-2	$\sigma_{\text{pole}} = 692 \text{ psf}$
236+22.3 (45.6 ft Rt.)	19	1.0 ft	N/A	See Figure F-32
236+21.7 (46 ft Rt.)	19	1.0 ft	N/A	See Figure F-32

Lateral Stress at Wall 13 face is applied over 10 ft wide by full height of wall.

### Construction Considerations

Additional construction considerations that require attention during design and construction of this project are as follows:

1. At Wall 22, we expect wet ground conditions will be encountered during excavation for the foundation. Dewatering may be required to construct the wall.

2. The Signal Standard, Luminares, and Utility Pole Sleeve may require a hole cut in the welded wire MSE reinforcement or sleeve to pour the foundation after the wall has been constructed. Hilfiker Weld Wire Wall has a pre-approved plan detail for this option.

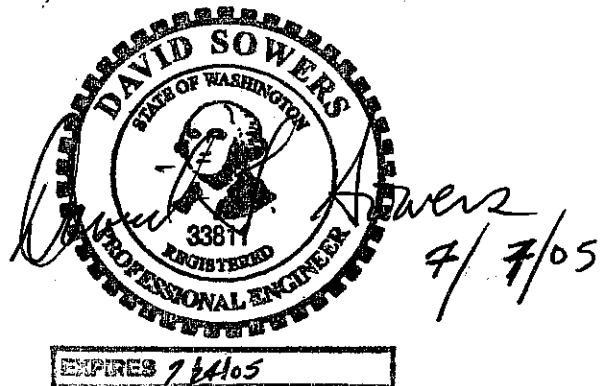
## Closure

We recommend that a Summary of Geotechnical Conditions be included in the contract documents to identify potential construction difficulties. The Summary of Geotechnical Conditions will be forwarded to Bridge and Structures after we have reviewed the PS&E package.

If you have any questions regarding this memorandum, please contact David Sowers at (360) 709-5418 or Donald Williams at (360) 709-5457.

*Donald A Williams*

Prepared By: Donald A. Williams  
Geotechnical Engineer



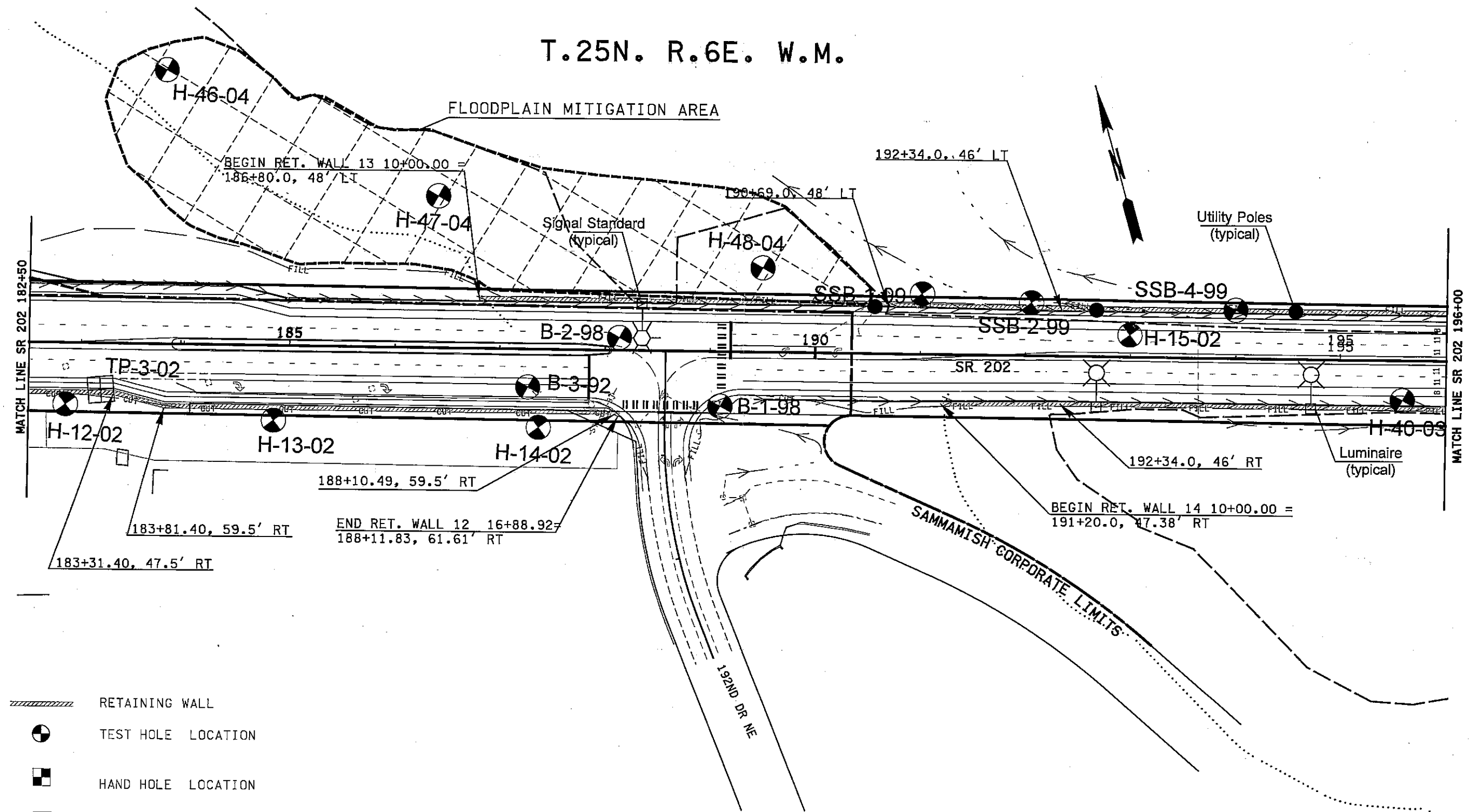
Reviewed By: David Sowers  
Senior Foundation Engineer

TMA:daw  
DAW  
Attachments

cc: Virgil Schmidt, HQ Construction, 47354  
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Chris Johnson, NW Materials Engineer, NB82-29

## **APPENDIX - A**

T.25N. R.6E. W.M.



- RETAINING WALL
- TEST HOLE LOCATION
- HAND HOLE LOCATION
- TEST PIT LOCATION
- UTILITY POLE LOCATION
- SIGNAL STANDARD LOCATION
- LUMINAIRE LOCATION

0 50 100  
SCALE IN FEET

Figure A-12: Site and Exploration Plan

JOB OL-3498 S.R. 202 C.S. LAYOUT	
SR 520 to Sahalee Way Walls 12, 13, and 14	
WASHINGTON STATE TRANSPORTATION COMMISSION DEPARTMENT OF TRANSPORTATION MATERIALS BRANCH T. E. BAKER MATERIALS ENGINEER	DATE 5/2004
	SCALE 1"=100' VERT. 1"=100' HORIZ.
	SHEET ____ OF ____ DRAWN BY DWG

T.25N. R.6E. W.M.

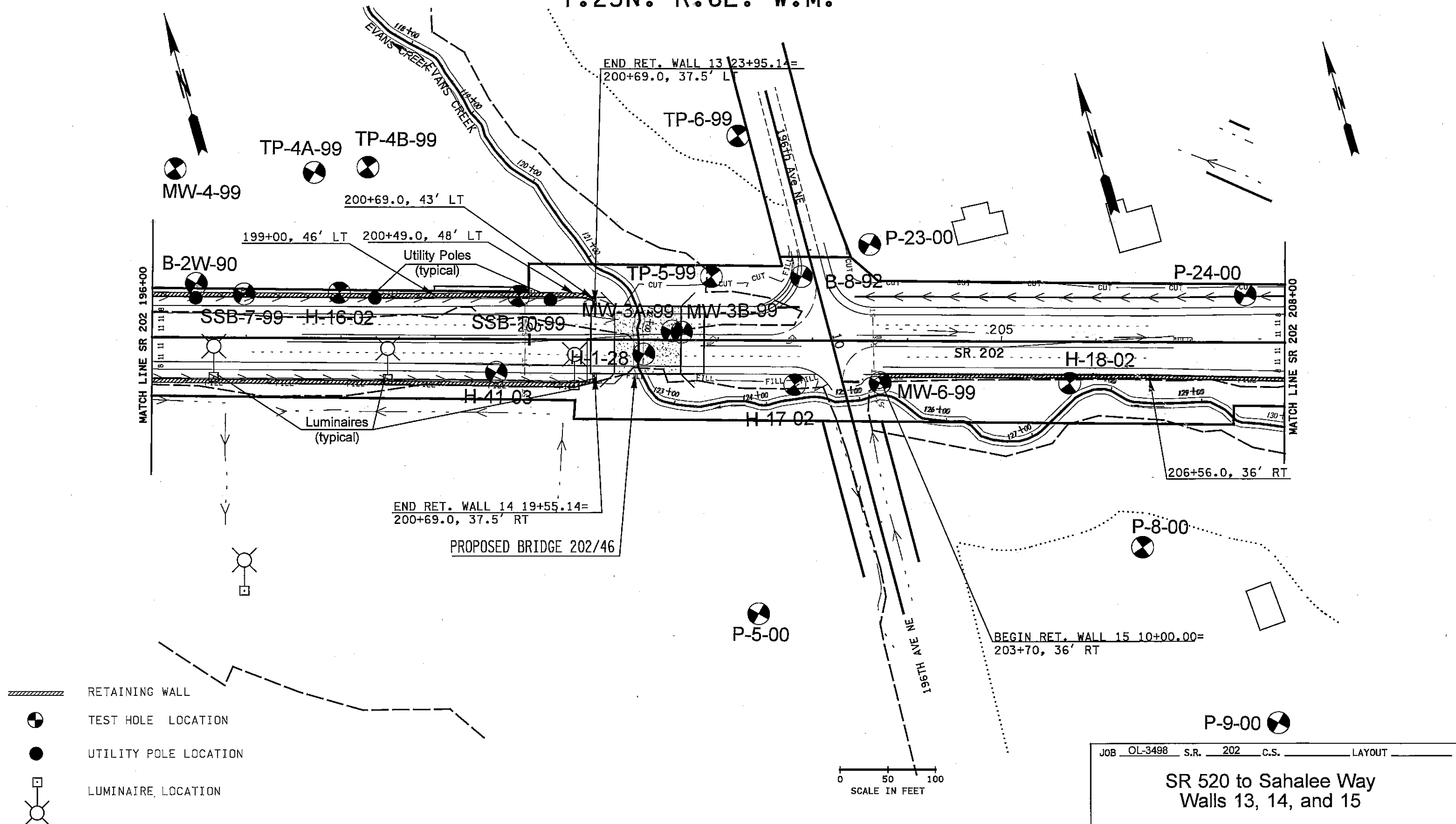
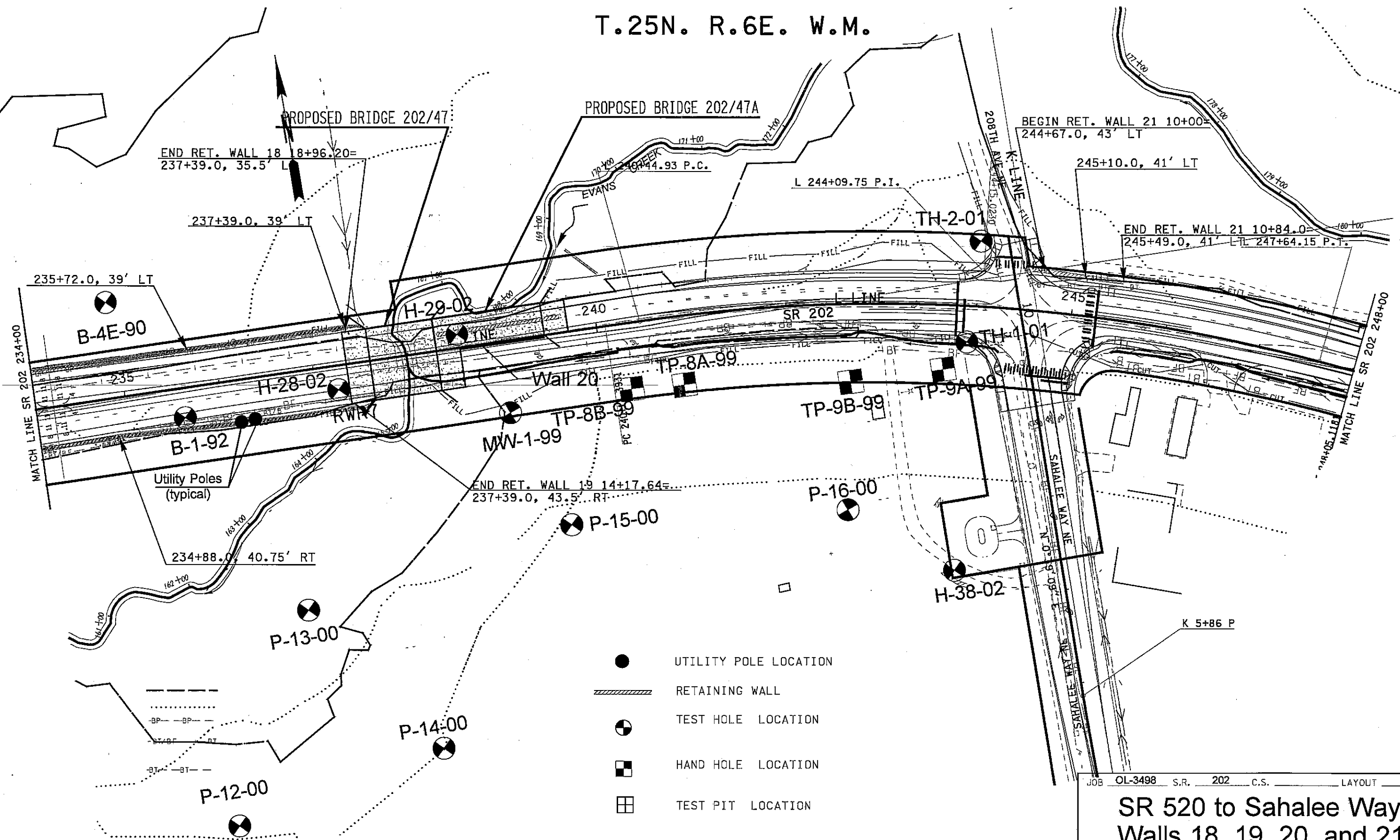


Figure A-14: Site and Exploration Plan



T.25N. R.6E. W.M.



SR 520 to Sahalee Way  
Walls 18, 19, 20, and 21



WASHINGTON STATE  
TRANSPORTATION COMMISSION  
DEPARTMENT OF TRANSPORTATION  
MATERIALS BRANCH  
T.E. BAKER MATERIALS ENGINEER

DATE 5/2004  
SCALE 1"=200' VERT.  
1"=200' HORIZ.  
SHEET \_\_\_\_ OF \_\_\_\_  
DRAWN BY DWG

Figure A-25: Site and Exploration Plan

T.25N. R.6E. W.M.

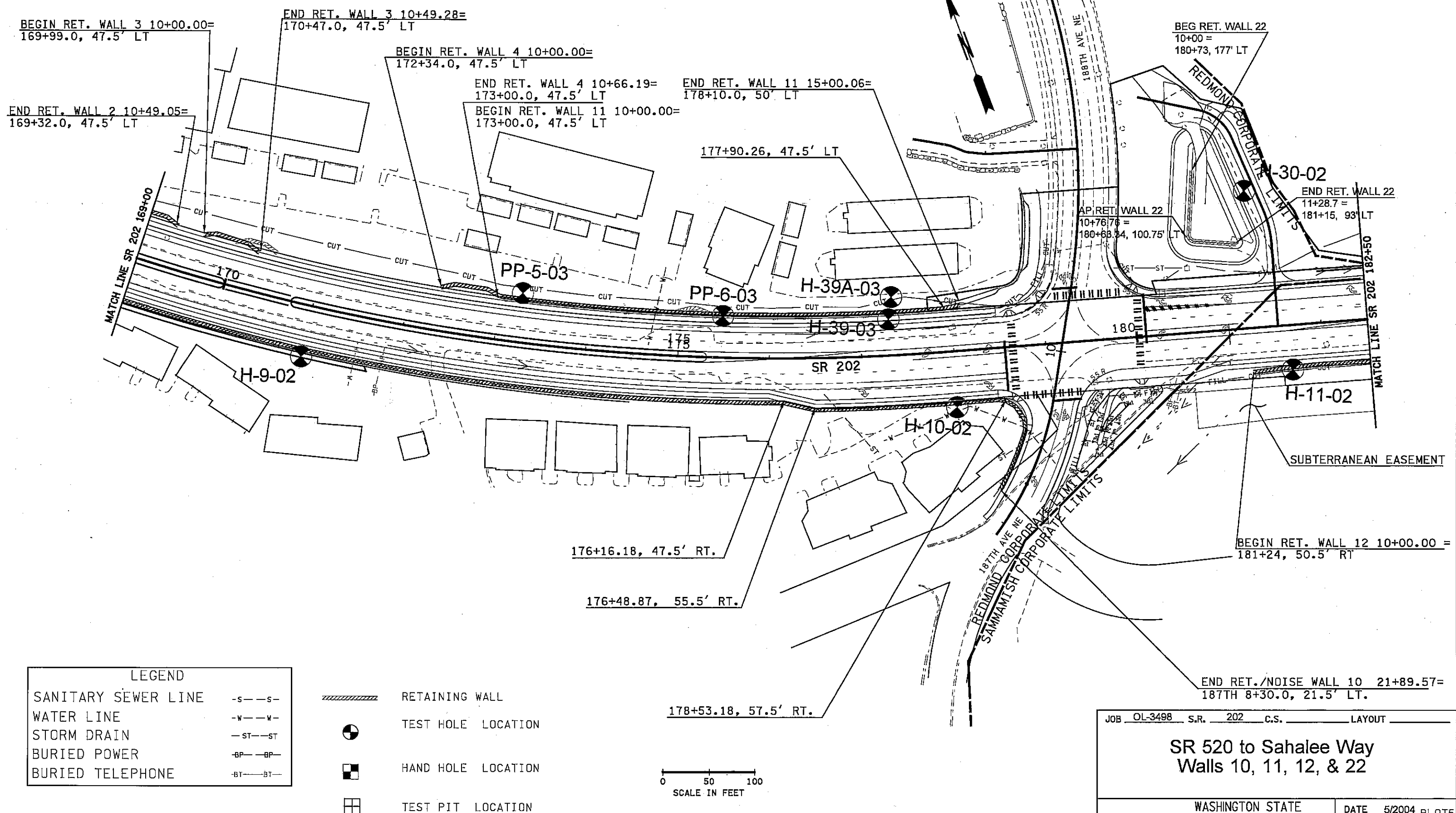


Figure A-10: Site and Exploration Plan

## **APPENDIX - B**



Washington State  
Department of Transportation

# LOG OF TEST BORING

Start Card R 62103

Job No. OL-3498 SR 202

Elevation 114.6 ft (34.9 m)

HOLE No. H-30-02

Sheet 1 of 2

Project SR 202 - SR520 to Sahalee Way NE

Driller Brian Hilts Lic# 2249

Site Address \_\_\_\_\_

Inspector Cleo Andrews

Start June 25, 2002 Completion June 25, 2002 Well ID# AMF 651 Equipment BK-81 w/ autohammer

Station 181+24 Offset 144' Lt. Casing HWT 4" x 35.0 Method Wet Rotary

Northing 570531.741 Easting 1659527.846 Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

County King Subsection NE/NE Section 18 Range 6 EWM Township 25 N

Depth (ft)	Meters (m)	Profile	Standard Penetration Blows/ft				SPT Blows/6" (N)	Sample Type	Sample No. (Tube No.)	Lab Tests	Description of Material	Groundwater	Instrument
			10	20	30	40							
1							5 5 7 (12)	D-1			Poorly graded sand with silt and gravel, angular, medium dense, dark brown, wet, Homogeneous, no HCl reaction, traces of organic. (Fill material). Length Recovered 0.7 ft, Length Retained 0.7 ft		
2							10 11 13 (24)	D-2		GS MC	SP-SM, M.C.=10% Poorly graded SAND with silt and gravel, medium dense, dark brown, moist, Homogeneous, no HCl reaction. Recovered 1.1 ft, Length Retained 1.0 ft		
3													
4							2 3 6 (9)	D-3		GS MC	06/25/2002 ML, M.C.=15% Sandy SILT, loose, grayish brown, moist, Homogeneous, no HCl reaction Length Recovered 1.5 ft, Length Retained 1.0 ft		
5													
6							7 9 14 (23)	D-4			Silty GRAVEL with sand, angular, medium dense, grayish brown, moist, Homogeneous, no HCl reaction Length Recovered 1.5 ft, Length Retained 1.0 ft		

SOIL OL3498 SR202-SR 520 TO SAHALEE WAY NE GPJ SOIL.GDT 6/29/04 2:00:09 P 8

Project SR 202 - SR520 to Sahalee Way NE[illegible]



PROJECT NUMBER SEA30738.61	BORING NUMBER B-1
SHEET 3 OF 3	
SOIL BORING LOG	

PROJECT SR 202 LOCATION STA 235+65, 30' RIGHT (236+00, 30' RT)  
ELEVATION APPROXIMATELY 80 (82 ft) DRILLING CONTRACTOR D.A.KENNER  
DRILLING METHOD AND EQUIPMENT MUD ROTARY CME 75  
WATER LEVELS 6'bgs, 1-27-92 START 1-22-92 FINISH 1-23-92 LOGGER J.C.

DEPTH BELOW SURFACE (FT)	SAMPLE			STANDARD PENETRATION TEST RESULTS 6" - 6" - 6" (N)	SOIL DESCRIPTION SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
	INTERVAL (FT)	TYPE AND NUMBER	RECOVERY (FT)			
85.0	60.0	S-14	1.5	29-49-80/5	POORLY GRADED SAND, (SP), gray, moist to wet, very dense, Top 6": coarse grained sand. Bottom 12": fine grained sand.	Cobbles at 62'.
	61.4					
	65.0	S-15	1.5	13-27-43 (70)	POORLY GRADED SAND WITH SILT, (SP-SM), gray, wet, very dense, fine grained sand, with some coarse grained sand in tip, with approximately 5%-10% silt.	Cobbles and gravel at 67.5'.
	66.5					
70.0	70.0	S-16	1.1	50-51-50 (101)	WELL GRADED GRAVEL WITH SAND, (GW), gray, wet, very dense, angular and subangular 1" minus gravel, with approximately 20% coarse grained sand.	Gravels.
	71.5					
	75.0	S-17	0.2	60/3"	WELL GRADED GRAVEL, (GW), gray, wet, very dense, angular gravel.	
80.0	75.3					
	80.0	S-18	0.5	59/6"	POORLY GRADED SAND, (SP), gray, wet, very dense, coarse grained sand. END OF BORING AT 80.5 FEET.	BOH AT 80.5 FEET.
	80.5					
85.0						Installed 3/4" diameter sched 40 PVC piezometer. 0-1.5' - Flush mount monument cover seated in cement grout. 1.5'-54.0' - Bentonite seal. 54.0'-80.5' - Pea gravel. 74.0'-76.0' - 2" diameter slotted PVC tip.



PROJECT NUMBER  
SEA30738.G1

BORING NUMBER  
B-1

SHEET 2 OF 3

## SOIL BORING LOG

PROJECT SR 202

LOCATION STA 235+65, 30' RIGHT (236+00, 30' RT)

ELEVATION APPROXIMATELY 80 (82 ft)

DRILLING CONTRACTOR D.A.KENNER

DRILLING METHOD AND EQUIPMENT MUD ROTARY CME 75

WATER LEVELS 6'bgs, 1-27-92

START 1-22-92

FINISH 1-23-92

LOGGER J.C.

DEPTH BELOW SURFACE (FT)	SAMPLE			STANDARD PENETRATION TEST RESULTS 6" - 6" - 6" (N)	SOIL DESCRIPTION SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
	INTERVAL (FT)	TYPE AND NUMBER	RECOVERY (FT)			
35.0	30.0 30.9	S-8	0.4	31-64/5"	POORLY GRADED GRAVEL (GP), gray, wet, very dense, angular 2" minus gravel.	Driller notes - formation very dense to 34.5'.
	35.0					
	36.5	S-9	1.1	27-21-15 (46)	WELL GRADED GRAVEL WITH SAND (GW), gray and brown, wet, dense, subrounded, 0.75" minus gravel, with coarse grained sand.	
40.0	40.0					
	41.5	S-10	1.1	18-20-18 (38)	WELL GRADED GRAVEL (GW), brown, wet, dense, subrounded 1.5" minus gravel, with approximately 5% sand.	
	45.0					
45.0	45.0					
	46.5	S-11	1.0	20-18-19 (37)	WELL GRADED GRAVEL WITH SAND (GW), brown and gray, wet, dense, subrounded 1.5" minus gravel, with approximately 15% coarse grained sand.	
	50.0					
50.0	50.5	S-12	0.0	60/6"	NO RECOVERY	Suspect that material is well graded gravel and that we hit a cobble with the sampler. Large cobbles from 50.5' to 52'.
	55.0					
55.0	55.0					
	56.5	S-13	1.2	18-40-48 (88)	SILTY SAND (SM), gray, moist, very dense, fine grained sand.	
	60.0					



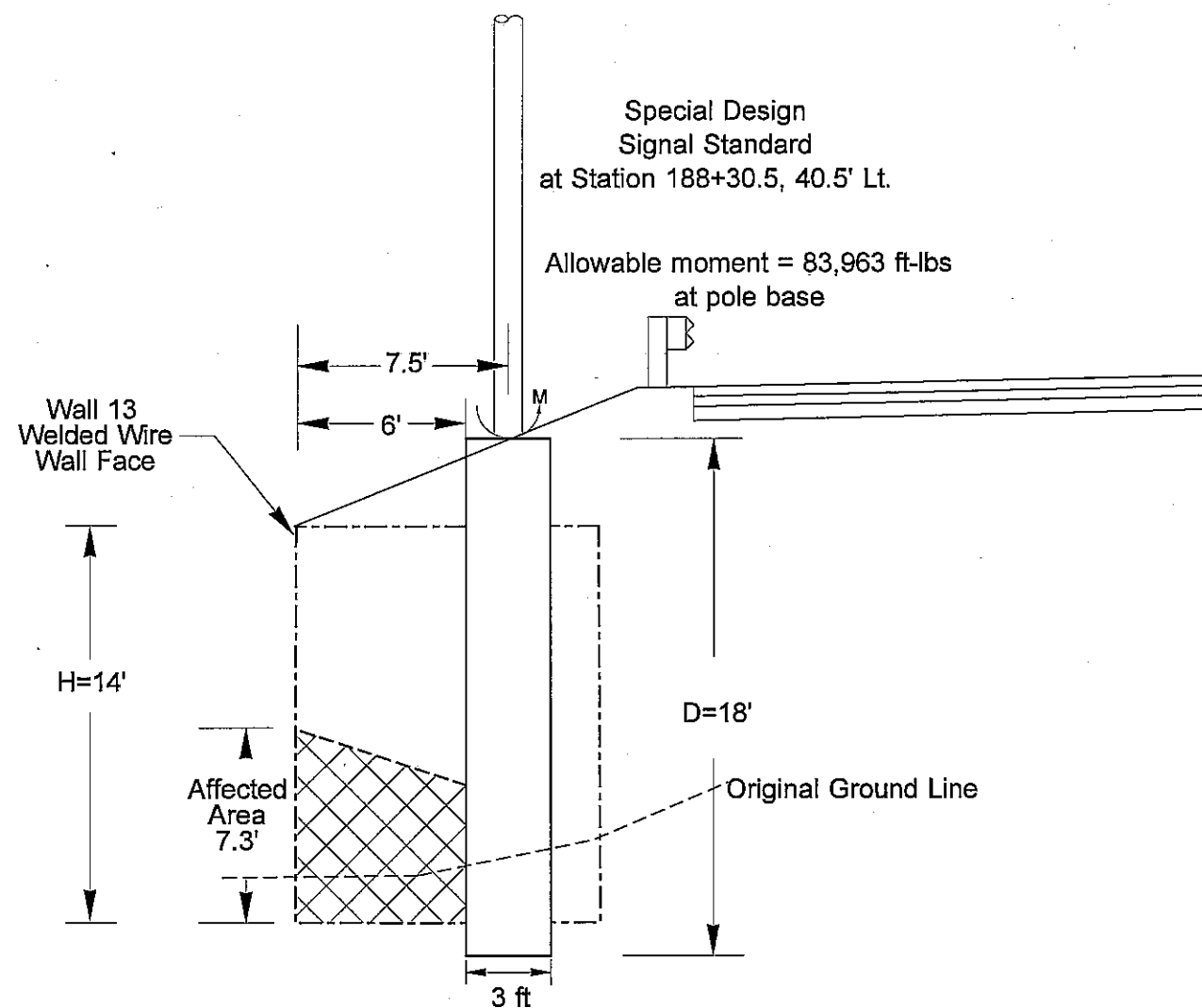
PROJECT NUMBER SEA30738.G1	BORING NUMBER B-1
SHEET 1 OF 3	
SOIL BORING LOG	

PROJECT SR 202 LOCATION STA 235+65, 30' RIGHT (236+00, 30' RT)  
ELEVATION APPROXIMATELY 80 (82 ft) DRILLING CONTRACTOR D.A.KENNER  
DRILLING METHOD AND EQUIPMENT MUD ROTARY CME 75  
WATER LEVELS 6'bgs, 1-27-92 START 1-22-92 FINISH 1-23-92 LOGGER J.C.

DEPTH BELOW SURFACE (FT)	SAMPLE			STANDARD PENETRATION TEST RESULTS 6" - 6" - 6" (N)	SOIL DESCRIPTION SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS DEPTH OF CASING, DRILLING RATE DRILLING FLUID LOSS TESTS AND INSTRUMENTATION
	INTERVAL (FT)	TYPE AND NUMBER	RECOVERY (FT)			
5.0	5.0					2' of gravel over soft silt.
	6.5	S-1	0.5	0-0-1 (1)	SILT (ML), gray and brown mottled with rust, moist, very soft, with some organics.	
10.0	10.0					
	12.0	ST-2	0.0	N.A.	NO RECOVERY	Easy push. Suspect it is soft silt.
	12.5					
15.0	14.0	S-3	N.R.	1-3-5 (8)	SILT (ML), gray, moist to wet, firm, with organics.	
	15.0					
	17.0	ST-4	2.0	N.A.	Top: SILT (ML), gray, moist to wet, firm. Bottom: SILTY SAND (SM), gray, moist, loose, with approximately 30%-40% silt.	Stiffer push. FP=1.75, 1.5, 1.25 tsf. Torvane = 0.6 tsf.
20.0	18.5	S-5	1.5	3-2-2 (4)	POORLY GRADED SAND WITH SILT (SP-SM), grading to SILTY SAND (SM), at tip, gray, moist to wet, loose, uniform sand.	
	20.0					
	21.5	S-6	1.3	0-0-4 (4)	ELASTIC SILT (MH), gray, wet, soft.	Gravels at 21.7'. Some cobbles at 22.5'.
25.0	25.0					
	26.5	S-7	0.6	16-15-17 (32)	WELL GRADED GRAVEL (GW), gray and brown, wet, dense, angular 2" minus gravel with approximately 5% coarse grained sand.	Large, loose gravels from 24' to 25'.
	30.0					



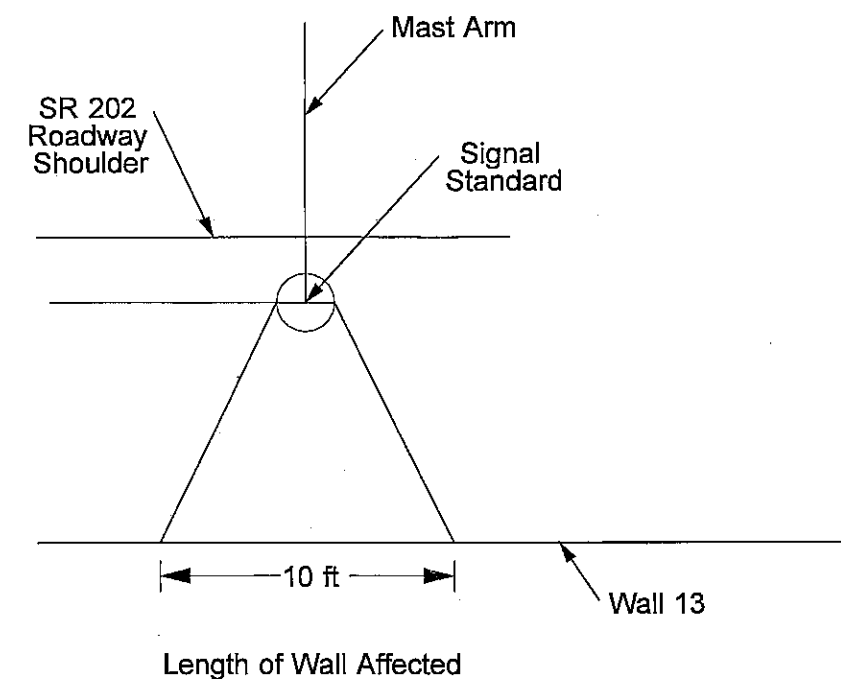
## **APPENDIX - F**



Added Lateral Stress at  
Wall Face is  $\sigma_{pole} = 118$  psf


Applied Over a 10 ft Wide by 7.5 ft Heigh Area

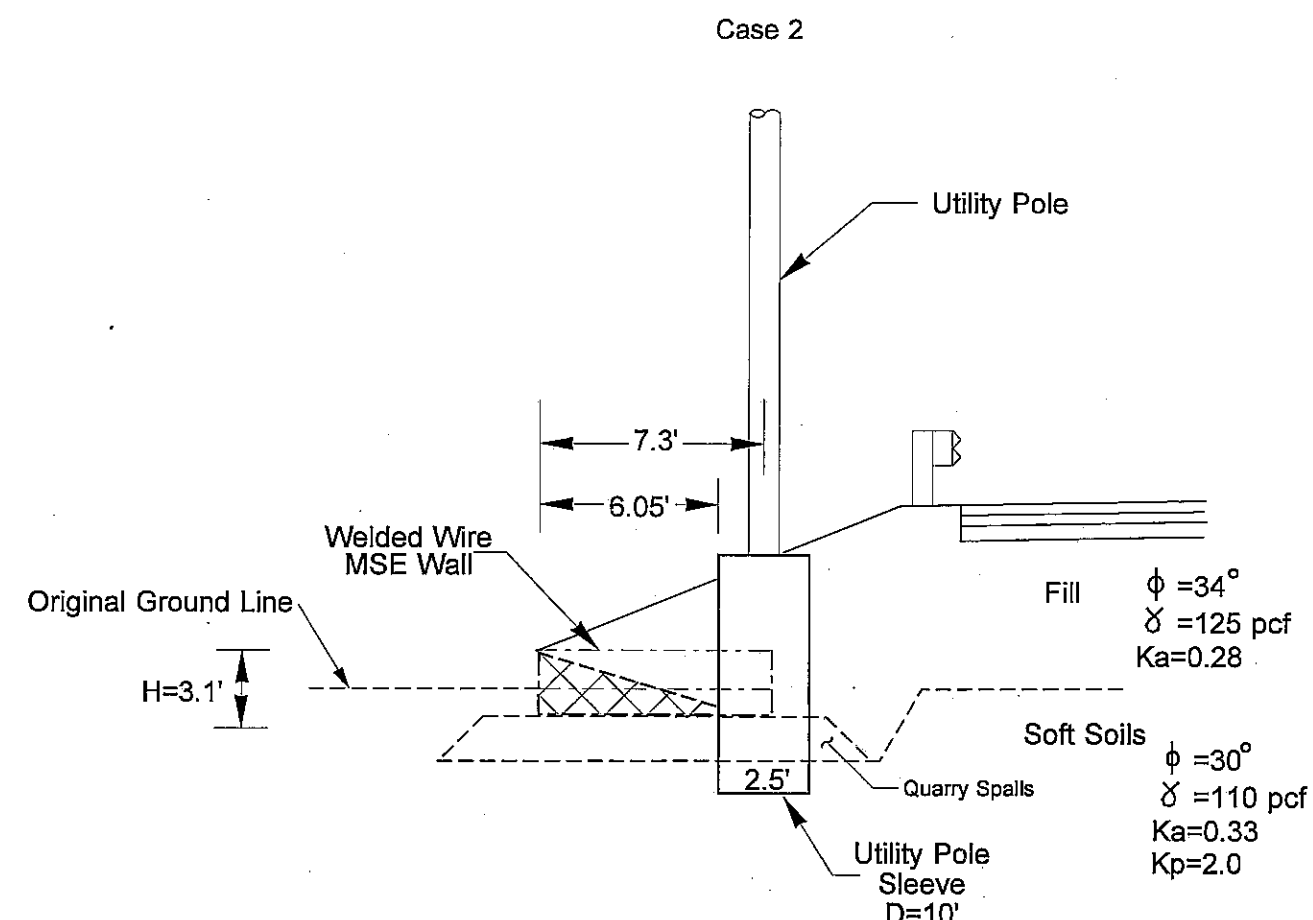
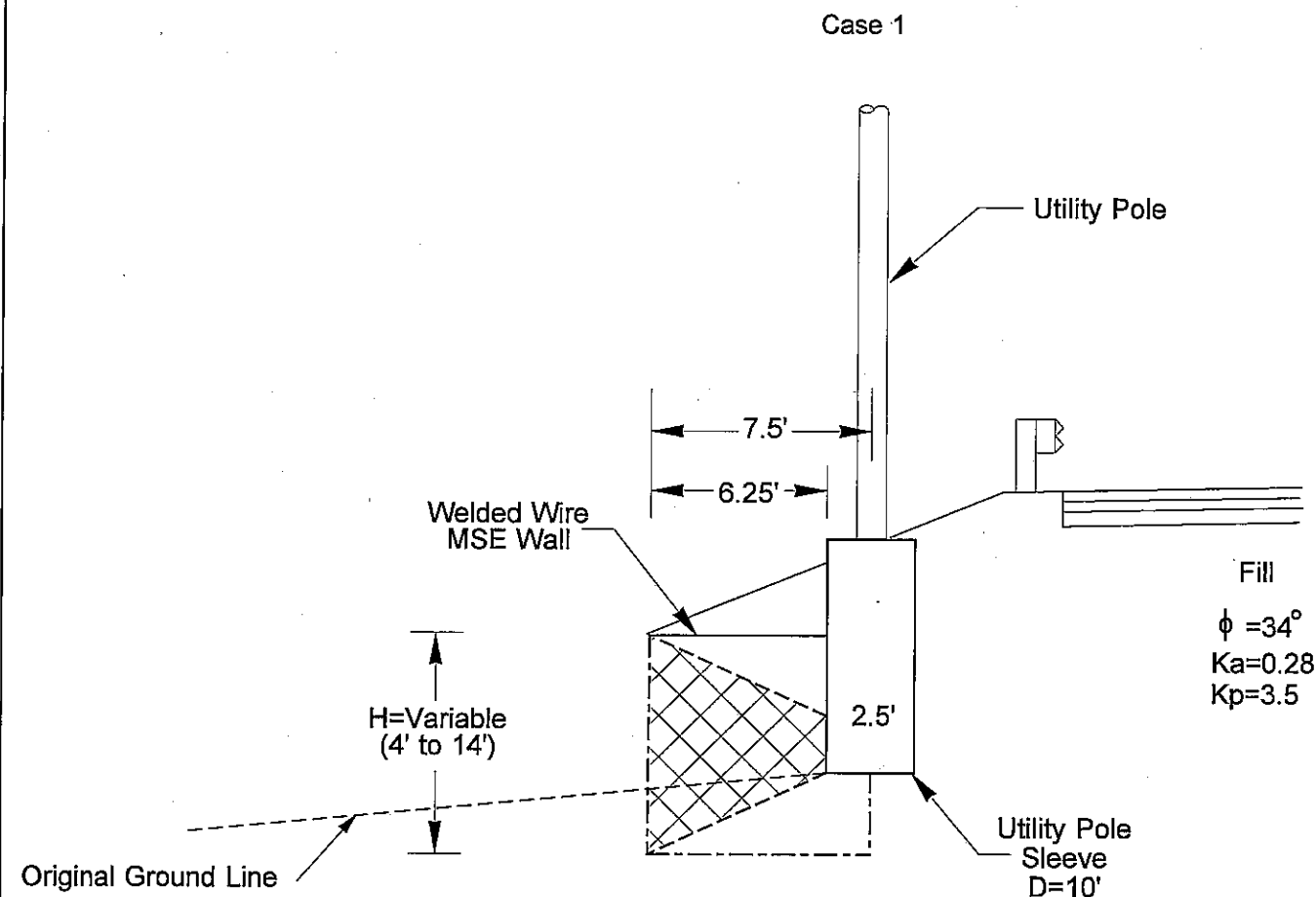
Cross Section View



Plan View

Figure F-30: Typical Lateral Stress Diagram for Signal Standards  
Behind Walls 13

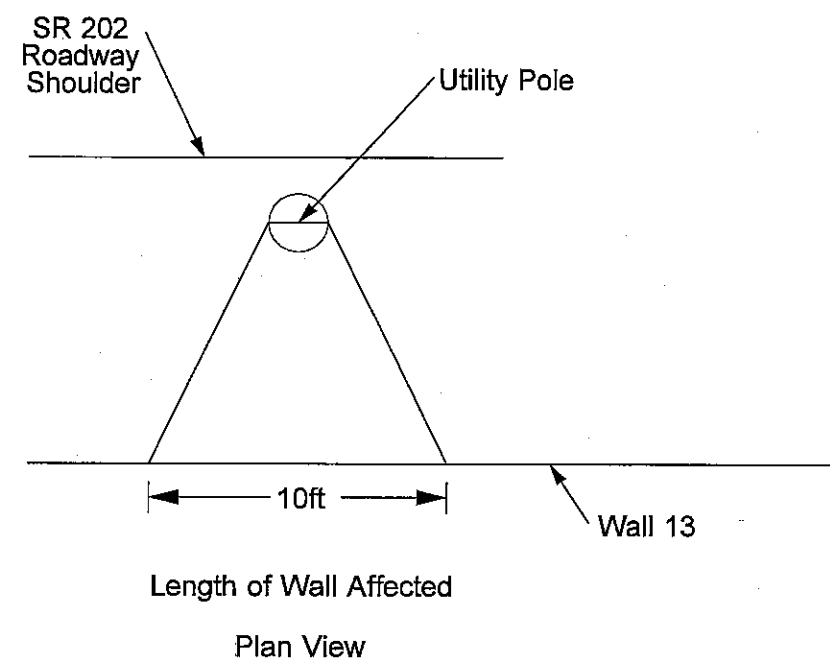
JOB OL-3498 S.R. 202 C.S. 1710 LAYOUT	
SR-520 to Sahalee Way NE M.P. 7.75 to 10.53	
 WASHINGTON STATE TRANSPORTATION COMMISSION DEPARTMENT OF TRANSPORTATION MATERIALS BRANCH T. E. BAKER MATERIALS ENGINEER	DATE 8/2004 SCALE N.T.S. VERT. SHEET ____ OF ____ DRAWN BY DWG



Typical Section of Utility Poles for Case 1

Station	Offset	Pole Length/Class	Added Lateral Stress
188+25	40' Lt	60/H-2	$\sigma_{\text{pole}} = 663$ psf
190+55	48' Lt	60/I	$\sigma_{\text{pole}} = 465$ psf
192+51	46' Lt	60/I	$\sigma_{\text{pole}} = 465$ psf
194+47	46' Lt	60/I	$\sigma_{\text{pole}} = 465$ psf
196+43	46' Lt	60/I	$\sigma_{\text{pole}} = 465$ psf
198+31	46' Lt	60/I	$\sigma_{\text{pole}} = 465$ psf

Lateral Stress Applies Over a 10 feet Wide by Full Height of Wall



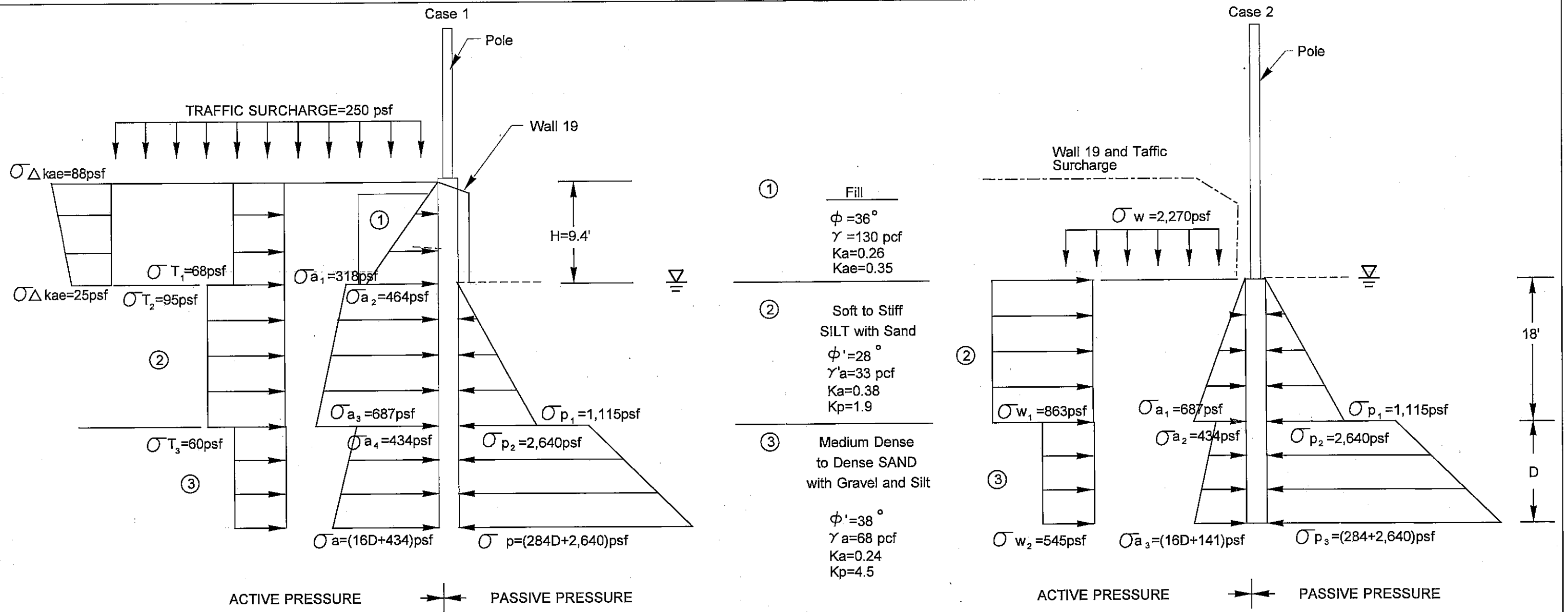
Typical Section of Utility Pole for Case 2

Station	Offset	Pole Length/Class	Added Lateral Stress
200+35	45.6' Lt	60/H-2	$\sigma_{\text{pole}} = 692$ psf

Lateral Stress Applies Over a 10 feet Wide by Full Height of Wall


Figure F-31: Typical Lateral Stress Diagram for Utility Poles Behind Wall 13

JOB OL-3498 S.R. 202 C.S. 1710 LAYOUT	
<b>SR-520 to Sahalee Way NE</b> <b>M.P. 7.75 to 10.53</b>	
WASHINGTON STATE TRANSPORTATION COMMISSION DEPARTMENT OF TRANSPORTATION MATERIALS BRANCH T. E. BAKER MATERIALS ENGINEER	DATE 8/2004 SCALE N.T.S. VERT. HORIZ. SHEET ____ OF ____ DRAWN BY DWG



- NOTES:
- 1: Active pressure is given as  $\sigma_a = K_a \gamma H$ .  
Active pressure acts over one soldier pile diameter below the dredge line.
- 2: Passive pressure is given as  $\sigma_p = K_p \gamma H$ ,  $K_p$  includes a factor of safety of 1.5 ( $K_p/1.5$ ). Passive pressure may be taken to act over three soldier pile diameters where piles are spaced greater than 3D.
- 3:  $\Delta K_{ae} = (K_{ae} - K_a)$

Figure F-32: Earth Pressure Diagram for Pole Foundation Vic. STA 236+27 Rt.

JOB <u>OL-3498</u> S.R. <u>202</u> C.S. <u>1710</u> LAYOUT _____	
<b>SR-520 to Sahalee Way NE</b> <b>M.P. 7.75 to 10.53</b>	
 WASHINGTON STATE TRANSPORTATION COMMISSION DEPARTMENT OF TRANSPORTATION MATERIALS BRANCH T. E. BAKER MATERIALS ENGINEER	DATE <u>8/2004</u> SCALE <u>N.T.S.</u> VERT. <u>HORIZ.</u> SHEET _____ OF _____ DRAWN BY <u>DWG</u>